



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/590,374

01/05/2007

James D. Englehardt

7230-51PUS

8408

31292 7590 07/06/2009
CHRISTOPHER & WEISBERG, P.A.
200 EAST LAS OLAS BOULEVARD
SUITE 2040
FORT LAUDERDALE, FL 33301

EXAMINER

HRUSKOCI, PETER A

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

07/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,374	Applicant(s) ENGLEHARDT ET AL.	
	Examiner /Peter A. Hruskoci/	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/23 and 10/25/06, 1/5/07, and 3/19/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-19 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/26/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1797

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-13, drawn to a method.

Group II, claims 14-19, drawn to system.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: It is submitted that the method of Group I lacks the special technical features of the system including the reaction chamber of Group II.

During a telephone conversation with John Christopher on 7/1/09 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Art Unit: 1797

The disclosure is objected to because of the following informalities: In the specification on page 22 line 1 “Fig. 8” and on page 23 line 4 “Fig.” appear to be erroneous.

Appropriate correction is required.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 13 “exposure to hydrogen peroxide” appears to be misdescriptive because hydrogen peroxide is a well known oxidizing agent, which would not appear to be effective in converting a ferric ion to a ferrous ion.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pommier 5,599,372 in view of Matsumoto et al. 3,461,067. Pommier disclose (see col. 4 line 26 through col. 8 line 63) that it is known the art to utilize a chelating agent such as EDTA to remove metals from soil, and to recover metals from an aqueous phase or water containing EDTA by oxidation and precipitation substantially as claimed. The claims differ from Pommier by reciting that the influent water is provided with a specific Fe source and contacted in the presence of oxygen. Matsumoto et al. disclose (see col. 1 line 60 through col. 3 line 58) that it is known in the art to contact a sewage plant effluent with metallic iron and oxygen, to aid in precipitating and removing organic substances and phosphate from the effluent. It would have been obvious to one skilled in the art to modify the method of Pommier by utilizing the recited

Art Unit: 1797

Fe source and oxygen in view of the teachings of Matsumoto et al., to aid in precipitating and removing organic substances or phosphate from the water. The specific pH and ambient conditions utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific water treated and results desired, absent a sufficient showing of unexpected results.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pommier 5,599,372 in view of Matsumoto et al. 3,461,067 as above, and further in view of Gurol et al. 6,531,065. The claim differs from the references as applied above by reciting that the contacting step includes ultraviolet radiation. Gurol et al. disclose (see col. 4 line 23 through col. 7 line 50) that it is known the art to utilize ultraviolet light and an iron source, to aid in removing perchlorate from water. It would have been obvious to one skilled in the art to modify the references as applied above, by utilizing the recited ultraviolet radiation in view of the teachings of Gurol et al., to aid in reducing the concentration of contaminants in the water.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pommier 5,599,372 in view of Matsumoto et al. 3,461,067 as above, and further in view of in view of Miller et al. 6,177,016. The claim differs from the references as applied above by reciting that the method is performed in a fluidized bed reactor. Miller et al. disclose (see col. 3 line 9 through col. 5 line 67) that it is known the art to utilize a fluidized bed of iron particles, to aid in removing contaminants from water. It would have been obvious to one skilled in the art to modify the references as applied above by utilizing the recited fluidized bed reactor in view of the teachings of Miller et al., to aid in reducing the concentration of contaminants in the water.

Art Unit: 1797

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pommier 5,599,372 in view of Matsumoto et al. 3,461,067 and Miller et al. 6,177,016 as above, and further in view of Oeste 5,480,524. The claim differs from the references as applied above by reciting that the method comprises a step of magnetically-controlled fluidizing. Oeste disclose (see col. 2 line 58 through col. 4 line 50) that it is known the art to utilize a magnetic flux to aid in rearranging particles in a fluidized bed for degrading contaminants. It would have been obvious to one skilled in the art to modify the references as applied above by utilizing the recited magnetically-controlled fluidizing in view of the teachings of Oeste, to aid in rearranging particles in the fluidized bed.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pommier 5,599,372 in view of Matsumoto et al. 3,461,067 as above, and further in view of in view of Sivavec 5,750,036. The claim differs from the references as applied above by reciting that the contacting step includes iron-reducing bacteria for reducing Fe^{+3} to Fe^{+2} . Sivavec disclose (see col. 2 lines 55-67) that it is known the art to introduce ferrous ion into contaminated soils or sediments by dissolution of ferrous ions produced by the growth of iron-reducing bacteria. It would have been obvious to one skilled in the art to utilize the references as applied above by including the recited bacteria in the contacting step in view of the teachings of Sivavec, to aid in introducing ferrous ions into the water.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 1797

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Peter A. Hruskoci/ whose telephone number is (571) 272-1160.

The examiner can normally be reached on Monday through Friday from 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter A. Hruskoci/
Primary Examiner
Art Unit 1797

7/2/09